

Thinker

User's guide Release 2.1.4 Supplement

December 10, 1991

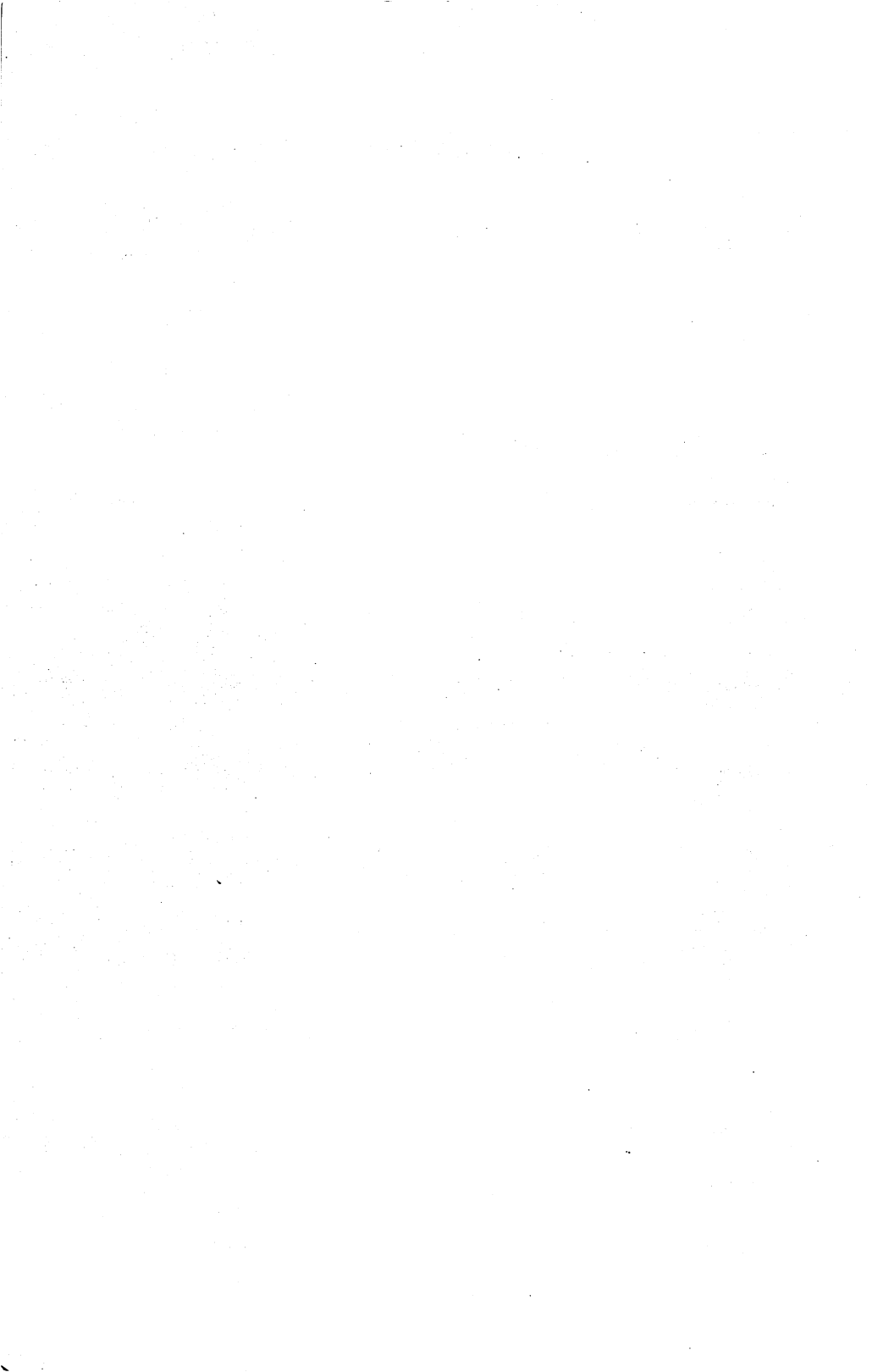
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Table of Contents

Summary of Release 2.1.4 Features	1
Bugs Repaired	3
New Behaviors	4
Menus	13
Requesters	15
ARexx	17
TinyDraw	22



Summary of Release 2.1.4 features

A major emphasis for this release of **Thinker** is the support of CD-ROM based files. This supplement has sections describing all of the new features in the section **New Behaviors**, and the changes in the **Menus**, **Requesters**, and **ARexx interface** in separate sections.

The CD-ROM changes introduce access to Read Only **Thinker** documents with the changes kept in a separate update file. This allows large **Thinker** documents (like the *Context Bible* by *Neuralink*) to be distributed on a CD-ROM but still allows the user to add commentary and hypertext links as if the document were on Read/Write disk.

The addition of External Links allows the construction of Hypertext documents based on large "flat" or non-hypertext databases. The **Thinker** document contains "External Links" which cause portions of the "flat" ASCII file to be displayed in the **Thinker** structure where the material can be manipulated. While the actual text cannot be modified, statements and links can be added to personalize the document. A hypertext dictionary or encyclopedia can be constructed without duplicating the storage of the CD-ROM based database.

Any set of ASCII documents from C source files, Autodoc files, to collections of essays can be viewed as a single hypertext document by using External Links to display the ASCII material from within a **Thinker** document. Labels can be added to the external links so that **words and phrases in the ASCII material can act as links within the collection of documents**. See the new Jump command "Jump Link Select" to see how one specifies links in the extracted text.

Improvements have been made in the user interface.

New scrolling gadgets now provide a full range of forward and backward scrolling.

Fast forms of commands eliminate many of the pop-up requesters for simple Branch operations.

Statements can be sorted by the changed date.

Numeric labels allow linking to "unlabeled" statements.

The Return key and Backspace key can have a more natural "word processing" behavior.

The ARexx interface is expanded to include more of **Thinker's** functions.

TinyDraw has some bugs fixed.

Bugs Repaired

Memory Low situations are handled more gracefully. Each long running operation now presents an option to continue or stop when memory gets low. If you select the Continue option, an automatic SAVE is done. The SAVE frees memory and allows the operation to continue. If you select the Stop option, the operation is terminated. Note that if the operation is something like Delete Group and you select Stop, parts of the Group will be deleted and parts will not be deleted.

The Behavior with automatic Keyboard Repeat has been improved. Previous to this release, keys that were held down would generate a stream of repeated key presses that would play out after the key was released. With this release, **Thinker** discards the unprocessed repeated keys and makes the behavior much "tighter". In this way the speed of keyboard repeats is now always at the maximum that **Thinker** can handle.

When text is Imported, paragraphs longer than 2000 bytes are now split into multiple statements.

Problems with RAM: disk under Workbench 2.0 have been bypassed.

A problem referencing random memory locations while launching applications (particularly the CLI) has been fixed.

The wrong statement was being marked during a jump operation. The statement marked was the one pointed to instead of the object of the jump. A JUMP UP command would mark the statement pointed to not the statement UP from the statement pointed to which was the true target of the jump.

Double clicking on a word that began or ended with a Return character ("~" on the screen) did not correctly isolate the word as a link.

On machines with very large memories **Thinker** had problems with memory management due to restrictions in the C language. These problems have been eliminated.

New Behaviors

Initial Command when launched

When **Thinker** is first launched either from a Project Icon or the Workbench, an ARexx command is automatically executed. When subsequent files are opened, no automatic command is ever issued. The automatic ARexx command applies only to the very first launch of **Thinker** and only if **Thinker** was launched naming an initial file

The Edit FKeys Requester is used to specify the "FirstCMD". Any ARexx command may be specified here. The command is saved in the Icon with the Save Options menu selection.

Read Only Files

Thinker 2.1.1 has the ability to work with Read Only files such as files on a CD ROM drive. To accomplish this, **Thinker** can maintain all changes (text and structure) in a separate update file on a different disk. In this way the Read Only file can be edited just as any standard **Thinker** document. As long as the update file is present when **Thinker** is run the file will appear as edited. If the Update File facility is disabled or the update file is not available when **Thinker** is run, the file will be viewed in its unmodified form.

There are several aspects of Update files that will be clarified with some explanation.

Where is the update file written?

There is a tooltype in the icon called UPDDIR. This tooltype is the directory in which the update file is read or written. The Update Directory is **only set by the initial launch of Thinker**. Either the value is taken from the **Thinker** icon or the project icon but once **Thinker** is running the directory may not be changed. This may seem restrictive but believe me it is far too easy to completely trash one's work if this restriction is removed.

"UPDDIR=DH0:Thinker/Updates" would cause all update files to be written in DH0:Thinker/Updates. The name of the update file

is the filename appended with ".upd". The file "Britanica-A-Z" would have an update file named "Britanica-A-Z.upd".

The only way to change or add the UPDDIR tooltype is to use the INFO program on the Workbench screen. Once added the UPDDIR value is carried through to any new files you create.

The default value for UPDDIR is "Thinker2:".

When are updates active?

When a file is opened (jumped to) and the "Use Update File" behavior is selected, the update file is processed. You can view a file with and without the updates depending on the setting of "Use Update File". If "Use Update File" is set when you do a SAVE, then either the current update file is added to or an update file is created.

Remember that the "Use Update File" behavior is only checked when a file is opened and when SAVE is selected. You may switch the behavior on and off between files so that some files are opened with updates and some without.

See the next sections to determine what happens with SAVE and SAVE AS depending on the setting of "Use Update File"

If you have an ICON for a file with an update file, and the ICON does not have UPDATE=YES (this can happen if you select Use Update File and then forget to SAVE OPTIONS) then the updates will not appear when the file is jumped to. Use CLOSE to close the file, select the Use Update File behavior, open the file. Remember to SAVE OPTIONS so that it won't happen again (unless you want it that way).

Can one merge updates? With the file? With other updates?

Multiple update files cannot be merged. However updates can be merged into a **Thinker** document if the document is Read/Write. Why? Well you might make a set of updates against a file that you were not sure you wanted to make permanent. Once you decided to make them permanent, they can be merged into the

base file.

SAVE AS always creates a new file **without** an update file with all updates merged in. It does this regardless of the setting of "Use Update File".

SAVE will merge updates into an existing file if SAVE is selected with "Use Update File" DESELECTED. Of course the file must be read/write. If "Use Update File" is SELECTED when SAVE is selected, the existing update file is updated or an update file is created for the updates.

Can I send an update file to a friend?

As long as the **exact same base file** is used (such as a CD-ROM file) an update file can be sent to another system and applied to the base file. However, you cannot merge your updates with your friend's. Sorry!

How does one set the options for a Read Only File

AmigaDos requires that the ICON for a file be in the same directory as the file. Of course if the file is on a CD-ROM then the ICON must be there too. This means that you cannot SAVE OPTIONS because the ICON is read only. Fear Not. A little trickery gets around this.

Create a small **Thinker** document in a read/write directory. Put a single statement in this file such as.

The real data for this file is in <CD-ROM:Britanica-A-Z,>

When you launch **Thinker** with this ICON simply double click on the link to jump to the real file.

To make it appear as if there were no extra file do the following. When you jump to the real file, open a "New Window". Resize the windows so that the window over the real file is the primary window. Select the Clip, and Spacing selections desired in the primary window. Make the original window active and select all the **other** desired options and behaviors (including Use Update

File). Select SAVE OPTIONS with the original window active. Now when you launch **Thinker** using the small read/write file, you will be automatically put back into the Read Only file in the primary window will all the correct options. Remember to switch back to the original window any time you want to SAVE OPTIONS.

Style settings

The method of selecting the style of typed text has been changed. With the old method it was difficult to edit text in mixed styles as the style that would be typed tended to change during the editing process. With the new scheme it is harder to add a non-plain style of text at many different places in the text. The editing process seems more important.

In the new scheme the style of the text to be typed is set whenever the cursor is placed in the text using the left mouse button. The style of text to be typed is set to the character immediately to the left of the cursor when the left mouse button is clicked (if the cursor is at the first character of the statement then the style is that of the first character). The style of the text to be typed will not change during typing (especially if you backspace into a bold field while typing italic. The style will stay italic).

Do not bother to set the style of the text if the cursor is not displayed or is not in the correct place as the style will be reset when the cursor is moved using the mouse. The style menu is always updated to reflect the style that will be used for typed text.

Text style is a global variable that applies to all windows. If the cursor is visible in the text of several windows and you set the style in one window, the same style will apply to the text typed in other windows that are subsequently activated. If you move the cursor in the newly activated window using the mouse, the style will be reset according to the placement of the cursor.

See-thru links

See-thru links may now have labels and may have text following the label specification. Only one level of See-thru link is evaluated so that a See-thru link that designates another See-thru link will not evaluate the second See-thru link.

External Links

Statements of the form [filename,offset,length] are known as external links. These links cause the display of text from the named file and can be used to treat non-**Thinker** files as hypertext documents. These links are expanded when the "Enable See-Thru" option is selected and appear with a "." in front of them when expanded. External links may have labels and the labels will appear to be attached to the extracted text. The extracted text may not be changed. There are two forms of external link.

(label)[filename,start-byte,length]

When "Enable See-Thru" is selected the data from the file "filename" starting at byte "start-byte" for a length of "length" is displayed on the screen.

(label)[filename,start-byte,length,search-string]

In this form the file is searched from "start-byte" until the string "search-string" is located in the file. The result is displayed for length "length"

Here is an example of an external link.

[thinker2:message.thnkr,8988,147]

It is possible to edit the External Link either with the "Enable See-Thru" option off or with it on. With "Enable See-Thru" off the link is edited just like any text on the screen. With "Enable See-Thru" on the Edit menu item "Edit XLink" is used. When this is selected an XLink Edit requester is brought up. This requester is explained at In the section **Edit XLink** under **Requesters**. After the link is edited using the "Edit XLink" requester the text of the External link is

changed. If you disable the "Enable See-Thru" option after using "Edit XLink" you will see that new values have replaced the originals.

One use of External Links is in generating a Hypertext Dictionary or Hypertext Encyclopedia from a CD-ROM version. While it is best to write a program to scan the CD-ROM file and build a list of links, it may be done by hand.

Start with a new **Thinker** document and add a statement of the form (aardvark)[CD-ROM:dictionary,0,100,aardvark]. Now select "Enable See-Thru" and wait for the first appearance of the word "aardvark" to be located in the file. Use the Edit Xlink requester to scan the CD-ROM file until you find the definition of "aardvark" and extend the length to display the entire definition (you may have to use multiple statements).

Do the same thing for the statement of the form (mammal)[CD-ROM:dictionary,0,100,mammal]. Now when you double click on the word "mammal" in the definition of "aardvark" you will be able to jump to the definition of "mammal". When you have added a statement to the **Thinker** document for each word defined in the CD-ROM dictionary, you will have a hypertext dictionary.

A suggested form for the hypertext dictionary might be:

- (a) A words
 - (aardvark)
 - [CD-ROM:dictionary,nnn,yyy,aardvark]
 - (animal)
 - [CD-ROM:]
- (b) Bwords

... etc

This form makes it easier to include multiple statements under the definition of each word. Poor Person Software may distribute such a dictionary in the future at a very nominal cost.

Jump Return arrow changed

The Jump return scrolling arrow has been changed to a left pointing arrow to lessen confusion with backward scrolling.

The Return and Backspace keys have alternate behaviors

When the Behavior Menu option "Return equals Split" is selected the Return and Backspace keys have altered function. See "Return Equals Split" under the Behaviors menu.

Fast Version of Commands

Holding down either SHIFT key while selecting one of the command tools at the top of the screen puts the command into FAST mode.

Fast mode commands assume that "Branch" is selected and that "Mark" is selected. Thus a FAST copy is a copy of the marked branch. The cursor is changed into a pointing hand immediately so that you can point to the branch that you want to COPY, MOVE, or DELETE. A Fast JUMP is equivalent to QJMP and is added for consistency.

New Scrolling

There are now 7 scrolling gadgets as two new Backward scrolling gadgets have been added. Scrolling backwards is not as fast as scrolling forward. All the scrolling gadgets **except** the "Jump Return" gadget operation continuously as long as they are "held down".

The single arrows scroll by 1 line. The double arrows scroll by 1 statement. The triple arrows scroll by approximately 1 screen.

Scrolling backwards by a screen is an approximate procedure. In almost all cases the current anchor statement will be near the bottom of the screen after the scroll operation. In rare cases the current anchor statement will be off the screen by 1 statement. The screen always moves by at least 1 statement.

The scroll forward screen operation now arranges for the last line displayed on the screen to become the first line of the next screen.

Import File requester changed.

The IMPORT file requester no longer starts scanning immediately. On floppy drive systems this often removes the requirement to put a floppy disk in the drive and then replace it with the one you wish to scan for the exported file.

Numeric labels

Each statement has a default label which is the block number in the file of the first portion of the statement. This block number is now displayed in front of the date when the "Show Date" option is selected.

A numeric label is specified as the string 0xxxB where xxx is the block number and the "0" and the "B" are required delimiters. A numeric label is valid anywhere that a label string is valid (such as in a link specification). The link <updates!,0379B> is a link to this statement.

When you select SAVE OPTIONS the numeric label of the statement at the anchor of the window is saved and the file will be repositioned at the correct statement when you restart **Thinker** by double clicking on the file icon.

BEWARE!!!!!! The block number of a statement does not change when you edit or move the statement. However, if you delete the statement then any link specification with a numeric label in it becomes invalid. If the same file block is subsequently used for another statement, the numeric label will designate the new statement. The file block could be used for some other purpose and leave the numeric label designating an invalid block. You should use numeric labels sparingly and only with files that rarely change!!!

An example use of numeric labels is in SEE-THRU LINKS. If you want to view an entire branch of one document in another document you must either have labels on all statements in the branch or use numeric label values in the see-thru link specifications.

Dot Commands changed

Dot commands used to be available only as targets of Jump commands. They did not work in See-Thru links, Copy/Move targets, or any other place. This seemed silly. Dot commands may now modify any target.

There is a down side. Dot commands no longer have any effect if they modify a duplicate label. The F (Find) dot command has been removed.

Local clipping levels respected on PRINT and EXPORT

The expansion of statements with "+" clipping tools in front of them now impacts the appearance of printed and exported output. The new rule is that the printed or exported output will be exactly the same as appears on the screen.

In addition the size of the database to remember local clipping has been increased to 128 entries. It is now possible to expand a reasonable number of branches in a large document and then print or export the selected sections with a single operation.

Menus

Commands

Insert

The new name "Insert Above" describes what in previous releases was called "Insert Up". That is, the new statement is Super-Ordinate to the statement with the cursor or pointed to. The Keyboard shortcut for "Insert Above" remains Right-Amiga-U.

"Insert Up" now means to insert After the statement Up from the one pointed to as it did in Release 1.

Jump

The **Jump Link Select** command allows a new way to delimit a link. The text selected by sweeping the mouse over text while holding down the left mouse button is used as the designator of the link. **Jump Link Select** is equivalent to typing the selected text into the Jump Link - Link Address requester, surrounding the selected text with "<>" characters, or changing the style of the selected text when using style delimited links.

This feature is designed for use with External Links which display text from ASCII files. Since such text is not alterable and may contain phrases that represent links, it is necessary to allow the phrase to be specified as a link. Select the text in the external link display and then use **Jump Link Select** to accomplish the jump.

Options

Read Only Styles

Any of the non-plain text styles can be chosen to designate text that may not be modified. If **bold** is selected as a Read Only Style then no bold text in a document may be modified, cut, pasted over, or have its style changed. Read Only Styles may be selected in any combination.

You may type new text directly before or directly after Read Only text. Text typed directly after will take on the style of the Read Only text and thus become Read Only.

Behaviors

Compress Statements

When this option is selected each statement is compressed when it is written onto the disk. A 15 to 20 saving in space is accomplished doing this. The compression is low because statements are not very long and the shorter the statement the less effective compression is. Compressed statements are automatically expanded when read. Previous versions of **Thinker** will do odd things with compressed statements, Beware!

Use Update File

When this behavior is selected, all changes go into an update file separate from the file being edited. See the section Read Only Files under **New Behaviors**.

Return equals Split

With this behavior enabled a typed Carriage Return causes the current statement to be split at the cursor. If the cursor is at the end of the statement the effect is the same as "Insert After".

In addition the behavior of the Backspace key is altered. A backspace typed with the cursor at the beginning of a statement will cause the statement with the cursor to be joined with the previous statement.

For Join, only one of the statements may have subordinate statements and neither statement may be an IMAGE. When statements are joined, the labels are amalgamated.

Requesters

Export

A field has been added to the Export Requester to set the page length for the exported file. This parameter only affects the format "!" export **AND printing**. To set the page length for printing, first attempt an Export and set the page length parameter, then cancel the Export and do the Print.

A field has been added to the Export Requester to enable the printing of Level Numbers (ie 1.1.2, 1.2.1, etc) in front of statements. When enabled this option applies to Print and Export with the "!" prefix format option. You must use the Export Requester to set this option even if you want to use it only for Printing (as in the Page Length setting).

Sort

A new sort type has been added. Selecting the "Dates" gadget in the sort setup requester sorts the selection by the date/time stamp (the last date/time when the statement was added or changed). Note that the "Dates" gadget is in the first column of the sort setup requester

Edit Xlink

This new requester is added to edit external links while looking at the file from which the data is extracted. To use this requester you must place the cursor in an external link and have selected "Enable See-Thru" to expand the external link into the extracted text. Select "Edit XLink" from the Edit menu and the requester will pop up.

The requester displays the Offset and Length of the external link and the scroll bars may be used to modify these values. In addition there is a search string gadget which allows the user to enter a search string. When a search string is visible the "Next" gadget may be used repeatedly to find the next occurrence of the search string in the file. The Offset and Length values will be changed accordingly.

If you had selected text in the statement by sweeping the cursor over

text with the left mouse button down when the Edit XLink requester is brought up, you can make the selected text the new link values by selecting the "Select" gadget in the requester. This gadget changes the link to match the selected text.

If you modify the Offset of an external link manually using the scroll bar, any search string associated with the link will be removed. You may add a search string or modify an existing search string at any time.

If you select OK then the external link definition is changed to match the current display. If you select CANCEL the definition reverts to the one at the time the "Edit XLink" requester was brought up.

File Requester

The scrolling gadgets now offer continuous scrolling.

The "Parent" gadget now goes all the way back to showing the mounted volumes. You no longer have to type the volume names into the string gadget.

ARexx

New commands have been added to improve the control of **Thinker** from ARexx programs.

ADD ABOVE "data"

Inserts a statement above the current one. That is the current statement and all subsequent statements at the same level become subordinate to the newly inserted statement. Equivalent to the sequence Insert Up, Move group (current to end of plex) after new statement at a level down. As in the Insert Above command.

CLIPBOARD SHOW

Show the clipboard.

CLIPBOARD UNSHOW

Hide the clipboard.

GET BLOCKNUMBER

Returns the Block Number of the statement. This block number is used to form numeric labels in link specifications of the form <filename,0blocknumberB>. See the discussion of numeric labels under **New Behaviors**.

GET DATE

Returns the date associated with the current statement in the form "DDD MMM dd hh:mm:ss YYYY" which is the same format that is displayed on the screen with the Show Date option.

GET FILENAME

Returns the filename of the active REXX file. The active REXX file is the last file to be referenced by a REXX command. In cases where the REXX command is the result of using an FKey, the REXX file is the same as the file displayed in the window that was active when the

Function Key was depressed.

GET FKEY n

Returns the Function key string for the Key with number 1 ... 10

GET SEE-THRU

Returns a return code (rc) of 1 if "See-Thru" is enabled and returns a return code (rc) of 0 if "See-Thru" is disabled.

GET SELECTED

Returns any selected text and sets the default ARexx file and Arexx blk to the statement with the selected text.

SEE-THRU ENABLE|DISABLE

Enable or Disable Sec-thru links

SET FKEY n 'string'

Sets the function key string of key "n" to the string 'string'. As in other REXX commands the "" marks are removed when the string is processed.

WINDOW OPEN x,y,w,h

Open a new window described by the parameters Xpos,Ypos,Width,Height. The new window becomes the current ARexx window. There is no open file. A Jump command must be issued to display a file. The mouse and keyboard may be used in this new window. If the parameters are out of bounds, **Thinker** will open the best window it can.

Returns the window ID of the new window.

WINDOW CLOSE id

Close the window specified by the "id".

WINDOW ID

Return the ID of the current window.

WINDOW GO id

Make the specified window the current window.

WINDOW CLIP n

Set the clipping level of the current window.

WINDOW SPACING n

Set the spacing of the current window.

WINDOW LINES n

Set the number of lines displayed for each statement in the current window.

A new option has been added to the SORT command.

**SORT FILE|BRANCH|PLEX ASCENDING|DESCENDING
LABELS|FIRSTC|CONTENTST|CONTENTBR|DATES
LENGTH nn KEYSTR xxxxxx**

When DATES is present neither LENGTH nor KEYSTR has any effect.

New Error messages:

114 - No TEXT on ADD ABOVE

182 - No current statement for GET DATE

183 - No active REXX file for GET FILENAME

420 - Unknown WINDOW command
421 - No window ID specified, or invalid
423 - No window ID specified, or invalid
424 - No window parameters specified
425 - Too many windows
426 - No clip value specified, or invalid
427 - No spacing value specified, or invalid
428 - No lines value specified, or invalid
429 - No valid command after "SEE-THRU"

430 - Unknown CLIPBOARD command

501 - GET FKEY - no number present or out of range
502 - SET FKEY - no number present or out of range
503 - SET FKEY - no string present (use ") for null.

505 - GET SELECTED - no file open in window
506 - GET SELECTED - no text selected
507 - GET SELECTED - unable to read statement with selected text.

508 - GET BLOCKNUMBER - no current statement.

Three new sample AREXX commands

PUTDOWN

This command is suitable for a Function Key as it moves the statement with the cursor to be down from the statement that precedes it. This is equivalent to a Move (down) operation.

PUTABOVE

This command is suitable for a Function Key as it moves the statement with the cursor to be above the statement that follows it.

These ARexx commands are not complete in that PUTABOVE and PUTDOWN are not exact duals of each other (the operations do not commute). PUTABOVE reverses the effect of PUTDOWN but PUTDOWN does not reverse the effect of PUTABOVE. Beware of trying to undo a PUTABOVE with a PUTDOWN

ADDLABEL

This command adds any selected text to the label string (the text between "()" characters at the beginning of the statement) associated with the statement containing the selected text. If there is no label string then one is created.

If See-Through is enabled the label is added to the base text. That is the label is added to the statement that is visible with "Enable See-Thru" disabled.

TinyDraw

PAL and Large Workbench Screens are now correctly handled.

Bugs in OPEN have been repaired.

Code has been added to circumvent an alleged bug in ghosting of the SAVE menu item.

Code has been added to circumvent a bug in the AreaDraw routines in the graphics library.

Hangups using the ARexx links have been found and repaired.

Circles will show as circles on Interlaced screens. NOTE that they may no longer "fit" properly in the drawing if the drawing was made on a non-interlaced screen.

